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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/044,654

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9399

7590

04/09/2003

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EXAMINER

PETKOVSEK, DANIEL J

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,654

Applicant(s)

LEVIN ET AL.

Examiner

Daniel J Petkovsek

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13, 15-21, and 23-25 is/are rejected.
- 7) ☒ Claim(s) 5, 14 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on January 11, 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed January 11, 2002 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because there are no references listed as pertinent prior art. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Drawings

2. New corrected drawings are required in this application because the drawings are informal. Please note that number 24 is not detailed in the informal drawings. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Inventorship

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 2874

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Allowable Subject Matter

4. Claims 5, 14, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The relevant prior art does not teach or reasonably suggest an optical module as claimed with additionally the sleeve and the ferrule including projections for limiting relative axial movement therebetween.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilliland et al. U.S.P. No. 5,815,623.

Gilliland et al. U.S.P. No. 5,815,623 teaches (Figs. 6A, 7) a radially symmetrical optoelectronic module comprising: a symmetrical (around the optical axis) ferrule 500 defining

Art Unit: 2874

an axial opening along an optical axis and having first and second ends positioned along the optical axis, a lens assembly held by holder 500 along the optical axis, the first end of the ferrule to receive an optical fiber adjacent to the lens, and an optoelectronic device 518 affixed to the second end of ferrule 500, in a second structural component, which clearly, fully meets Applicant's claimed limitations.

7. Claims 1, 6, 8-10, 15, 17, 18, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Jewell U.S.P. No. 5,940,564.

Jewell U.S.P. No. 5,940,564 teaches (Fig. 3) a radially symmetrical optoelectronic module comprising: a symmetrical ferrule holder 74 that has a first and second end symmetrical to the optical axis, a lens assembly 20 engaged in the holding ferrule 74, the first end of the ferrule formed to receive an optical fiber waveguide adjacent to the lens assembly 20, and an optoelectronic device 36 attached to the second end of ferrule 74 (via interim connectors 86) so that light appears at the device 36. Regarding claims 10 and 18, a second lens 18 is positioned adjacent to the optoelectronic device 36, the second lens 18 mounted along the optical axis by the second package 72. Regarding claims 6, 15, and 23, see column 14 lines 40-50 for the metal composition of the housing ferrule material. The prior art of Jewell '564 clearly, fully meets Applicant's claimed limitations.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2874

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-4, 7, 11-13, 16, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jewell 5,940,564.

Jewell U.S.P. No. 5,940,564 teaches (Fig. 3) a radially symmetrical optoelectronic module comprising: a symmetrical ferrule holder 74 that has a first and second end symmetrical to the optical axis, a lens assembly 20 engaged in the holding ferrule 74, the first end of the ferrule formed to receive an optical fiber waveguide adjacent to the lens assembly 20, and an optoelectronic device 36 attached to the second end of ferrule 74 (via interim connectors 86) so that light appears at the device 36. Regarding independent claims 10 and 18, a second lens 18 is positioned adjacent to the optoelectronic device 36, the second lens 18 mounted along the optical axis by the second package 72. Jewell '564 does not explicitly teach that a sleeve formed of a resilient material is outside the ferrule, frictionally engaged over the outside of the ferrule, to further connect the ferrule to a housing.

Regarding claims 2-4, 7, 11-13, 16, 19-21, and 24, it is well known in the art to use sleeves outside ferrules (fiber holders) for the purpose of further connecting these modules to housings in order for protection, or for improvement of the electrical conduction needs for connection. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to attach a frictional sleeve to the outside of the ferrule holding member 74 for the purpose of further housing the optical module for protection from any outside force that would interfere with the coupling of the optical signal from the optical fiber through the lens system to the optoelectronic device.

10. Claims 2-4, 9-13, 17-21, and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilliland et al. U.S.P. No. 5,815,623.

Gilliland et al. U.S.P. No. 5,815,623 teaches (Figs. 6A, 7) a radially symmetrical optoelectronic module comprising: a symmetrical (around the optical axis) ferrule 500 defining an axial opening along an optical axis and having first and second ends positioned along the optical axis, a lens assembly held by holder 500 along the optical axis, the first end of the ferrule to receive an optical fiber adjacent to the lens, and an optoelectronic device 518 affixed to the second end of ferrule 500, in a second structural component. Gilliland et al. '623 does not explicitly teach that a sleeve formed of a resilient material is outside the ferrule, frictionally engaged over the outside of the ferrule, to further connect the ferrule to a housing. Gilliland et al. '623 does not explicitly teach that a two lens system exists in which a second lens directs light onto the optoelectronic component mounted at the second end of the module.

Regarding claims 2-4, 11-13, and 19-21, it is well known in the art to use sleeves outside ferrules (fiber holders) for the purpose of further connecting these modules to housings in order for protection. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to attach a frictional sleeve to the outside of the ferrule holding member 500 for the purpose of further housing the optical module for protection from any outside force that would interfere with the coupling of the optical signal from the optical fiber through the lens system to the optoelectronic device.

Regarding claims 9, 10, 17, 18, and 25, using a second lens near the optoelectronic component for the purpose of improving coupling to the device is an obvious, and well known in

Art Unit: 2874

the art, modification of the module of Gilliland et al. '623. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a second lens in the module to improve the coupling efficiency of the module to/from the optoelectronic device.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, with respect to the state of the art of optical modules aligning optical fibers to optoelectronic devices by use of lenses: PTO form 892 references C-L.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.



Daniel Petkovsek
April 2, 2003



Brian Healy
Primary Examiner